

1 **ABSTRACT OF THE DISCLOSURE**

2 A rapid cycle pressure swing adsorption oxygen concentration method
3 uses a mechanical valve that has at least one cam-actuated flow control valve to
4 switch flow of fluid, such as compressed air coming into a sieve tank that is fitted
5 with molecular sieve materials. The cam-actuated flow control valve is
6 repeatedly actuated by the rotating cams to become open or closed to complete a
7 cycle that precisely controls the flow direction, pressure conditions and
8 pressurized timing in the sieve tank whereby performance and efficiency of
9 producing rapidly oxygen is high.